Connecting via Winsock to STN

Welcome to STN International! Enter x:X

LOGINID:SSPTAIAG1615

PASSWORD:
TERMINAL (ENTER 1, 2, 3, OR ?):2

* * * * * * * * * * Welcome to STN International * * * * * * * * * *

NEWS 1		Web Page for STN Seminar Schedule - N. America
NEWS 2	NOV 21	CAS patent coverage to include exemplified prophetic substances identified in English-, French-, German-, and Japanese-language basic patents from 2004-present
NEWS 3	NOV 26	MARPAT enhanced with FSORT command
NEWS 4	NOV 26	CHEMSAFE now available on STN Easy
NEWS 5	NOV 26	Two new SET commands increase convenience of STN searching
NEWS 6	DEC 01	ChemPort single article sales feature unavailable
NEWS 7	DEC 12	GBFULL now offers single source for full-text coverage of complete UK patent families
NEWS 8	DEC 17	Fifty-one pharmaceutical ingredients added to PS
NEWS 9	JAN 06	The retention policy for unread STNmail messages will change in 2009 for STN-Columbus and STN-Tokyo
NEWS 10	JAN 07	WPIDS, WPINDEX, and WPIX enhanced Japanese Patent Classification Data
NEWS 11	FEB 02	Simultaneous left and right truncation (SLART) added for CERAB, COMPUAB, ELCOM, and SOLIDSTATE
NEWS 12	FEB 02	GENBANK enhanced with SET PLURALS and SET SPELLING
NEWS 13	FEB 06	Patent sequence location (PSL) data added to USGENE
NEWS 14	FEB 10	COMPENDEX reloaded and enhanced
NEWS 15	FEB 11	WTEXTILES reloaded and enhanced
NEWS 16	FEB 19	New patent-examiner citations in 300,000 CA/CAplus patent records provide insights into related prior art
NEWS 17	FEB 19	Increase the precision of your patent queries -- use terms from the IPC Thesaurus, Version 2009.01
NEWS 18	FEB 23	Several formats for image display and print options discontinued in USPATFULL and USPAT2
NEWS 19	FEB 23	MEDLINE now offers more precise author group fields and 2009 MeSH terms
NEWS 20	FEB 23	TOXCENTER updates mirror those of MEDLINE - more precise author group fields and 2009 MeSH terms
NEWS 21	FEB 23	Three million new patent records blast AEROSPACE into STN patent clusters

NEWS EXPRESS JUNE 27 08 CURRENT WINDOWS VERSION IS V8.3,
AND CURRENT DISCOVER FILE IS DATED 23 JUNE 2008.

NEWS HOURS	STN Operating Hours Plus Help Desk Availability
NEWS LOGIN	Welcome Banner and News Items
NEWS IPC8	For general information regarding STN implementation of IPC 8

Enter NEWS followed by the item number or name to see news on that specific topic.

* * * * * * * * * * * * * * * * STN Columbus * * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 09:13:10 ON 25 FEB 2009

=> file registry
COST IN U.S. DOLLARS

	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.22	0.22

FILE 'REGISTRY' ENTERED AT 09:13:43 ON 25 FEB 2009
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Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 23 FEB 2009 HIGHEST RN 1110839-66-1
DICTIONARY FILE UPDATES: 23 FEB 2009 HIGHEST RN 1110839-66-1

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH January 9, 2009.

Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

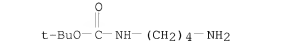
http://www.cas.org/support/stngen/stndoc/properties.html

=> s boc
L1 1186 BOC

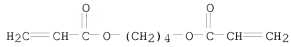
=> d scan L1

L1 1186 ANSWERS REGISTRY COPYRIGHT 2009 ACS on STN
IN 2-Propenoic acid, 1,1'-(1,4-butanediyl) ester, polymer with 1-butanamine, 1,1-dimethylethyl N-(4-aminobutyl)carbamate and 1-octadecanamine
MF (C18 H39 N . C10 H14 O4 . C9 H20 N2 O2 . C4 H11 N)x
CI PMS

CM 1



CM 2



CM 3

CM 4

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

L1 1186 ANSWERS REGISTRY COPYRIGHT 2009 ACS on STN
IN BOC 1
MF Unspecified
CI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):0

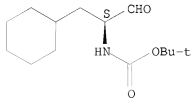
```
=> s tert-butyloxycarbonyl
        140489 TERT
          1153 BUTYLOXYCARBONYL
L2        1017 TERT-BUTYLOXYCARBONYL
                 (TERT(W)BUTYLOXYCARBONYL)

=> s L1 and L2
L3         101 L1 AND L2

=> d scan L3

L3   101 ANSWERS   REGISTRY  COPYRIGHT 2009 ACS on STN
IN   Carbamic acid, [(1S)-2-cyclohexyl-1-formylethyl]-, 1,1-dimethylethyl ester
     (9CI)
MF   C14 H25 N O3
```

Absolute stereochemistry. Rotation (-).

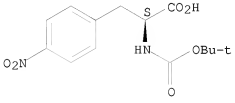


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):2

L3 101 ANSWERS REGISTRY COPYRIGHT 2009 ACS on STN
IN L-Phenylalanine, N-[(1,1-dimethylethoxy)carbonyl]-4-nitro-
MF C14 H18 N2 O6
CI COM

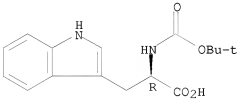
Absolute stereochemistry. Rotation (+).



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L3 101 ANSWERS REGISTRY COPYRIGHT 2009 ACS on STN
IN D-Tryptophan, N-[(1,1-dimethylethoxy)carbonyl]-
MF C16 H20 N2 O4
CI COM

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):0

=> logoff hold

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	20.85	21.07

SESSION WILL BE HELD FOR 120 MINUTES
STN INTERNATIONAL SESSION SUSPENDED AT 09:19:33 ON 25 FEB 2009

Connecting via Winsock to STN

Welcome to STN International! Enter x:X

LOGINID:SSPTAIAG1615

PASSWORD:
 * * * * * * RECONNECTED TO STN INTERNATIONAL * * * * * *
SESSION RESUMED IN FILE 'REGISTRY' AT 09:33:01 ON 25 FEB 2009
FILE 'REGISTRY' ENTERED AT 09:33:01 ON 25 FEB 2009
COPYRIGHT (C) 2009 American Chemical Society (ACS)

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	20.85	21.07

=> file registry

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	20.85	21.07

FILE 'REGISTRY' ENTERED AT 09:33:12 ON 25 FEB 2009
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provided by InfoChem.

STRUCTURE FILE UPDATES: 23 FEB 2009 HIGHEST RN 1110839-66-1
DICTIONARY FILE UPDATES: 23 FEB 2009 HIGHEST RN 1110839-66-1

New CAS Information Use Policies, enter HELP USAGETERMS for details.

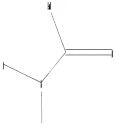
TSCA INFORMATION NOW CURRENT THROUGH January 9, 2009.

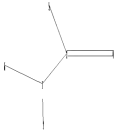
  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document. For information
on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

=>
Uploading C:\Documents and Settings\igreene\My
Documents\case_docs\10553439_11249328\Search\STN\boc.str





chain nodes :
1 2 3 4 5 6
chain bonds :
1-2 1-3 1-6 2-4 2-5
exact/norm bonds :
1-2 1-3 2-4

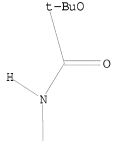
```
exact bonds :
1-6  2-5


Match level :
1:CLASS  2:CLASS  3:CLASS  4:CLASS  5:CLASS  6:CLASS



L4      STRUCTURE UPLOADED

=> d L4
L4 HAS NO ANSWERS
L4                STR
```




```
Structure attributes must be viewed using STN Express query preparation.


=> s L4 EXACT SAM
SAMPLE SEARCH INITIATED 09:34:15 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED -        2 TO ITERATE

100.0% PROCESSED         2 ITERATIONS                                0 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:  ONLINE  **COMPLETE**
                        BATCH   **COMPLETE**
PROJECTED ITERATIONS:            2 TO      124
PROJECTED ANSWERS:               0 TO        0

L5            0 SEA EXA SAM L4

=> s L4 FAM SAM
SAMPLE SEARCH INITIATED 09:34:34 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED -      707 TO ITERATE

100.0% PROCESSED       707 ITERATIONS                               0 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:  ONLINE  **COMPLETE**
                        BATCH   **COMPLETE**
PROJECTED ITERATIONS:        12545 TO    15735
PROJECTED ANSWERS:               0 TO        0

L6            0 SEA FAM SAM L4

=> s L4 SSS SAM
SAMPLE SEARCH INITIATED 09:34:42 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED -    18887 TO ITERATE
```

```
 10.6% PROCESSED     2000 ITERATIONS                          50 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:  ONLINE  **COMPLETE**
                        BATCH   **COMPLETE**
PROJECTED ITERATIONS:       369510 TO   385970
PROJECTED ANSWERS:          237773 TO   251021

L7          50 SEA SSS SAM L4

=> s L4 EXACT FULL
FULL SEARCH INITIATED 09:35:04 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED -       39 TO ITERATE

100.0% PROCESSED       39 ITERATIONS                           1 ANSWERS
SEARCH TIME: 00.00.01

L8            1 SEA EXA FUL L4

=> d L8

L8   ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2009 ACS on STN
RN   16066-84-5  REGISTRY
ED   Entered STN:  16 Nov 1984
CN   Carbamic acid, N-methyl-, 1,1-dimethylethyl ester  (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN   Carbamic acid, methyl-, 1,1-dimethylethyl ester (9CI)
CN   Carbamic acid, methyl-, tert-butyl ester (8CI)
OTHER NAMES:
CN   (tert-Butoxycarbonyl)methylamine
CN   Methylcarbamic Acid tert-Butyl Ester
CN   Methylcarbamic acid tert-butyl ester
CN   N-(tert-Butoxycarbonyl)methylamine
CN   tert-Butyl methylcarbamate
CN   tert-Butyl N-methylcarbamate
MF   C6 H13 N O2
CI   COM
LC   STN Files:   BEILSTEIN*, CA, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX,
       SPECINFO, TOXCENTER, USPAT2, USPATFULL
         (*File contains numerically searchable property data)
```



```
**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

              40 REFERENCES IN FILE CA (1907 TO DATE)
              40 REFERENCES IN FILE CAPLUS (1907 TO DATE)


=> d hist

     (FILE 'HOME' ENTERED AT 09:13:10 ON 25 FEB 2009)

     FILE 'REGISTRY' ENTERED AT 09:13:43 ON 25 FEB 2009
L1          1186 S BOC
```

```
L2          1017 S TERT-BUTYLOXYCARBONYL
L3           101 S L1 AND L2

     FILE 'REGISTRY' ENTERED AT 09:33:12 ON 25 FEB 2009
L4                STRUCTURE UPLOADED
L5             0 S L4 EXACT SAM
L6             0 S L4 FAM SAM
L7            50 S L4 SSS SAM
L8             1 S L4 EXACT FULL

=> s "carbon nanotube"
        126937 "CARBON"
           310 "CARBONS"
        126937 "CARBON"
                  ("CARBON" OR "CARBONS")
             4 "NANOTUBE"
             2 "NANOTUBES"
             4 "NANOTUBE"
                  ("NANOTUBE" OR "NANOTUBES")
L9           2 "CARBON NANOTUBE"
                  ("CARBON"(W)"NANOTUBE")

=> d L9

L9   ANSWER 1 OF 2  REGISTRY  COPYRIGHT 2009 ACS on STN
RN   308068-56-6  REGISTRY *
* Use of this CAS Registry Number alone as a search term in other STN files may
  result in incomplete search results.  For additional information, enter HELP
  RN* at an online arrow prompt (=>).
ED   Entered STN:  12 Dec 2000
CN   Fullerenes, tubular  (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN   Nanotubes, carbon
OTHER NAMES:
CN   Carbon nanotube
CN   Carbon nanotubes
CN   Sunnano SWNT
CN   SWCNT
CN   Tubular fullerenes
CN   Tubulene
CN   Tubulenes
CN   VGCF-G
MF   Unspecified
CI   MAN, CTS
SR   CA
LC   STN Files:   CHEMCATS, CSCHEM

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***


=> d L9 2

L9   ANSWER 2 OF 2  REGISTRY  COPYRIGHT 2009 ACS on STN
RN   308063-63-0  REGISTRY *
* Use of this CAS Registry Number alone as a search term in other STN files may
  result in incomplete search results.  For additional information, enter HELP
  RN* at an online arrow prompt (=>).
ED   Entered STN:  12 Dec 2000
CN   Carbon fibers, nanotube  (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN   Nanotubes, carbon fibers
OTHER NAMES:
```

```
CN   Carbere TEM
CN   Carbon nanotube fibers
CN   CNT
CN   Fibril RMB 4620-00
CN   Graphite Fibrils
CN   Graphite Fibrils BN
CN   HTF 150FF-HHT
CN   Hyperion BN
CN   Nanotube carbon fibers
CN   PR 24
CN   PR 24HHT
CN   Pyrograf III
CN   Pyrograf III-PR 19
CN   Pyrograf III-PR 19HHT
CN   Pyrograf III-PR 19PS
CN   Pyrograf III-PR 24
CN   Pyrograf III-PR 24HHT
CN   Pyrograf III-PR 24LHT
CN   Pyrograf III-PR 24PS-NS
CN   Pyrograf III-PR 24PS-OX
MF   Unspecified
CI   MAN, CTS
SR   CA

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***


=> s PEO OR PEG
            53 PEO
           418 PEG
             2 PEGS
           420 PEG
                 (PEG OR PEGS)
L10        468 PEO OR PEG

=> s di-tert-butoxycarbonyl
      22383582 DI
         75676 DIS
      22383582 DI
                 (DI OR DIS)
        140489 TERT
         19438 BUTOXYCARBONYL
             1 BUTOXYCARBONYLS
         19438 BUTOXYCARBONYL
                 (BUTOXYCARBONYL OR BUTOXYCARBONYLS)
L11         65 DI-TERT-BUTOXYCARBONYL
                 (DI(W)TERT(W)BUTOXYCARBONYL)

=> file caplus
COST IN U.S. DOLLARS                          SINCE FILE      TOTAL
                                                ENTRY     SESSION
FULL ESTIMATED COST                            110.52     131.59

FILE 'CAPLUS' ENTERED AT 09:38:40 ON 25 FEB 2009
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held by the publishers listed in the PUBLISHER (PB) field (available
for records published or updated in Chemical Abstracts after December
```

FILE COVERS 1907 - 25 Feb 2009 VOL 150 ISS 9
FILE LAST UPDATED: 24 Feb 2009 (20090224/ED)

Caplus now includes complete International Patent Classification (IPC)
reclassification data for the third quarter of 2008.

This file contains CAS Registry Numbers for easy and accurate
substance identification.

```
=> d hist

     (FILE 'HOME' ENTERED AT 09:13:10 ON 25 FEB 2009)

     FILE 'REGISTRY' ENTERED AT 09:13:43 ON 25 FEB 2009
L1          1186 S BOC
L2          1017 S TERT-BUTYLOXYCARBONYL
L3           101 S L1 AND L2

     FILE 'REGISTRY' ENTERED AT 09:33:12 ON 25 FEB 2009
L4                STRUCTURE UPLOADED
L5             0 S L4 EXACT SAM
L6             0 S L4 FAM SAM
L7            50 S L4 SSS SAM
L8             1 S L4 EXACT FULL
L9             2 S "CARBON NANOTUBE"
L10          468 S PEO OR PEG
L11           65 S DI-TERT-BUTOXYCARBONYL

     FILE 'CAPLUS' ENTERED AT 09:38:40 ON 25 FEB 2009

=> s L9 AND L10 AND (L2 OR L11 OR L7)
             0 L9
        512563 L10
         33060 L2
          1618 L11
            45 L7
L12           0 L9 AND L10 AND (L2 OR L11 OR L7)

=> s L9 AND L10
             0 L9
        512563 L10
L13           0 L9 AND L10

=> s L9 AND (L2 OR L11 OR L7)
             0 L9
         33060 L2
          1618 L11
            45 L7
L14           0 L9 AND (L2 OR L11 OR L7)

=> s L9
```

```
L15          0 L9

=> s "(carbon nanotube OR "Nanotubes" (L) "carbon")"
'"' NOT VALID HERE

=> s (carbon nanotube OR "Nanotubes" (L) "carbon")
       1439037 CARBON
         30105 CARBONS
       1449617 CARBON
                 (CARBON OR CARBONS)
         49175 NANOTUBE
         59758 NANOTUBES
         61724 NANOTUBE
                 (NANOTUBE OR NANOTUBES)
         46572 CARBON NANOTUBE
                 (CARBON(W)NANOTUBE)
         59758 "NANOTUBES"
       1439037 "CARBON"
         30105 "CARBONS"
       1449617 "CARBON"
                 ("CARBON" OR "CARBONS")
         50875 "NANOTUBES" (L) "CARBON"
L16      52279 (CARBON NANOTUBE OR "NANOTUBES" (L) "CARBON")

=> s Boc
         18430 BOC
            84 BOCS
L17      18512 BOC
                 (BOC OR BOCS)

=> s PEO OR (PEG OR "Polyethylene glycol")
         11669 PEO
           164 PEOS
         11703 PEO
                 (PEO OR PEOS)
         49433 PEG
          1533 PEGS
         50061 PEG
                 (PEG OR PEGS)
        399924 "POLYETHYLENE"
         15238 "POLYETHYLENES"
        404624 "POLYETHYLENE"
                 ("POLYETHYLENE" OR "POLYETHYLENES")
        410331 "GLYCOL"
         49429 "GLYCOLS"
        427374 "GLYCOL"
                 ("GLYCOL" OR "GLYCOLS")
        122119 "POLYETHYLENE GLYCOL"
                 ("POLYETHYLENE"(W)"GLYCOL")
L18     160490 PEO OR (PEG OR "POLYETHYLENE GLYCOL")

=> d hist

     (FILE 'HOME' ENTERED AT 09:13:10 ON 25 FEB 2009)

     FILE 'REGISTRY' ENTERED AT 09:13:43 ON 25 FEB 2009
L1          1186 S BOC
L2          1017 S TERT-BUTYLOXYCARBONYL
L3           101 S L1 AND L2

     FILE 'REGISTRY' ENTERED AT 09:33:12 ON 25 FEB 2009
L4                STRUCTURE UPLOADED
```

```
L5            0 S L4 EXACT SAM
L6            0 S L4 FAM SAM
L7           50 S L4 SSS SAM
L8            1 S L4 EXACT FULL
L9            2 S "CARBON NANOTUBE"
L10         468 S PEO OR PEG
L11          65 S DI-TERT-BUTOXYCARBONYL

     FILE 'CAPLUS' ENTERED AT 09:38:40 ON 25 FEB 2009
L12           0 S L9 AND L10 AND (L2 OR L11 OR L7)
L13           0 S L9 AND L10
L14           0 S L9 AND (L2 OR L11 OR L7)
L15           0 S L9
                E CARBON NANOTUBE+ALL/CT
L16       52279 S (CARBON NANOTUBE OR "NANOTUBES" (L) "CARBON")
L17       18512 S BOC
                E PEG+ALL/CT
L18      160490 S PEO OR (PEG OR "POLYETHYLENE GLYCOL")

=> s L16 AND L17 AND L18
L19           1 L16 AND L17 AND L18

=> d L19 ibib abs

L19  ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER:         2008:905084  CAPLUS
DOCUMENT NUMBER:          149:252119
TITLE:                    Targeted Single-Wall Carbon Nanotube
                          -Mediated Pt(IV) Prodrug Delivery Using Folate as a
                          Homing Device
AUTHOR(S):                Dhar, Shanta; Liu, Zhuang; Thomale, Jurgen; Dai,
                          Hongjie; Lippard, Stephen J.
CORPORATE SOURCE:         Department of Chemistry, Massachusetts Institute of
                          Technology, Cambridge, MA, 02139, USA
SOURCE:                   Journal of the American Chemical Society (2008),
                          130(34), 11467-11476
                          CODEN: JACSAT; ISSN: 0002-7863
PUBLISHER:                American Chemical Society
DOCUMENT TYPE:            Journal
LANGUAGE:                 English
OTHER SOURCE(S):          CASREACT 149:252119
AB   Most low-mol.-weight platinum anticancer drugs have short blood circulation
     times that are reflected in their reduced tumor uptake and intracellular
     DNA binding. A platinum(IV) complex of the formula
     c,c,t-[Pt(NH3)2Cl2(O2CCH2CH2CO2H)(O2CCH2CH2CONH-PEG-FA)] (I),
     containing a folate derivative (FA) at an axial position, was prepared and
     characterized.  Folic acid offers a means of targeting human cells that
     highly overexpress the folate receptor (FR).  Compound I was attached to the
     surface of an amine-functionalized single-walled carbon
     nanotube (SWNT-PL-PEG-NH2) through multiple amide
     linkages to use the SWNTs as a "longboat delivery system" for the platinum
     warhead, carrying it to the tumor cell and releasing cisplatin upon
     intracellular reduction of Pt(IV) to Pt(II).  The ability of SWNT tethered I
     to destroy selectively FR(+) vs. FR(-) cells demonstrated its ability to
     target tumor cells that overexpress the FR on their surface.  That the
     SWNTs deliver the folate-bearing Pt(IV) cargos into FR(+) cancer cells by
     endocytosis was demonstrated by the localization of fluorophore-labeled
     SWNTs using fluorescence microscopy.  Once inside the cell, cisplatin,
     formed upon reductive release from the longboat oars, enters the nucleus
     and reacts with its target nuclear DNA, as determined by platinum atomic
     absorption spectroscopy of cell exts.  Formation of the major cisplatin
     1,2-intrastrand d(GpG) crosslinks on the nuclear DNA was demonstrated by
```

use of a monoclonal antibody specific for this adduct. The SWNT-tethered compound I is the first construct in which both the targeting and delivery moieties have been incorporated into the same mol.; it is also the first demonstration that intracellular reduction of a Pt(IV) prodrug leads to the cis-{Pt(NH3)2} 1,2-intrastrand d(GpG) crosslink in nuclear DNA.
REFERENCE COUNT: 59 THERE ARE 59 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> s L16 AND L17
L20 12 L16 AND L17

=> s L16 AND L18
L21 450 L16 AND L18

=> d L20 1-12 ibib abs

L20 ANSWER 1 OF 12 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2008:1317613 CAPLUS
TITLE: Aryl-derivatized, water-soluble functionalized carbon nanotubes for biomedical applications
AUTHOR(S): Karousis, N.; Ali-Boucetta, H.; Kostarelos, K.; Tagmatarchis, N.
CORPORATE SOURCE: Theoretical and Physical Chemistry Institute, National Hellenic Research Foundation, Athens, 11635, Greece
SOURCE: Materials Science & Engineering, B: Advanced Functional Solid-State Materials (2008), 152(1-3), 8-11
CODEN: MSBTEK; ISSN: 0921-5107
PUBLISHER: Elsevier B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The functionalization of very-thin multi-walled carbon nanotubes (VT-MWNTs) with an aniline derivative, via the protocol of in situ generated aryl diazonium salts results, upon acidic deprotection of the terminal BOC group, on the formation of the water-soluble pos. charged ammonium functionalized VT-MWNTs-NH3 + material. The new materials have been structurally and morphol. characterized by infra-red (ATR-IR) spectroscopy and transmission electron microscopy (TEM). The quant. calcn. of the grafted aryl units onto the skeleton of VT-MWNTs has been estimated by thermogravimetric anal. (TGA), while the quant. Kaiser test showed the amine group loaded onto VT-MWNTs-NH3 + material. The aqueous solubility of this material has allowed the performance of some initial toxicol. in vitro investigations.
REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 2 OF 12 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2008:905084 CAPLUS
DOCUMENT NUMBER: 149:252119
TITLE: Targeted Single-Wall Carbon Nanotube -Mediated Pt(IV) Prodrug Delivery Using Folate as a Homing Device
AUTHOR(S): Dhar, Shanta; Liu, Zhuang; Thomale, Jurgen; Dai, Hongjie; Lippard, Stephen J.
CORPORATE SOURCE: Department of Chemistry, Massachusetts Institute of Technology, Cambridge, MA, 02139, USA
SOURCE: Journal of the American Chemical Society (2008), 130(34), 11467-11476
CODEN: JACSAT; ISSN: 0002-7863

PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 149:252119

AB Most low-mol.-weight platinum anticancer drugs have short blood circulation times that are reflected in their reduced tumor uptake and intracellular DNA binding. A platinum(IV) complex of the formula c,c,t-[Pt(NH3)2Cl2(O2CCH2CH2CO2H)(O2CCH2CH2CONH-PEG-FA)] (I), containing a folate derivative (FA) at an axial position, was prepared and characterized. Folic acid offers a means of targeting human cells that highly overexpress the folate receptor (FR). Compound I was attached to the surface of an amine-functionalized single-walled carbon nanotube (SWNT-PL-PEG-NH2) through multiple amide linkages to use the SWNTs as a "longboat delivery system" for the platinum warhead, carrying it to the tumor cell and releasing cisplatin upon intracellular reduction of Pt(IV) to Pt(II). The ability of SWNT tethered I to destroy selectively FR(+) vs. FR(-) cells demonstrated its ability to target tumor cells that overexpress the FR on their surface. That the SWNTs deliver the folate-bearing Pt(IV) cargos into FR(+) cancer cells by endocytosis was demonstrated by the localization of fluorophore-labeled SWNTs using fluorescence microscopy. Once inside the cell, cisplatin, formed upon reductive release from the longboat oars, enters the nucleus and reacts with its target nuclear DNA, as determined by platinum atomic absorption spectroscopy of cell exts. Formation of the major cisplatin 1,2-intrastrand d(GpG) crosslinks on the nuclear DNA was demonstrated by use of a monoclonal antibody specific for this adduct. The SWNT-tethered compound I is the first construct in which both the targeting and delivery moieties have been incorporated into the same mol.; it is also the first demonstration that intracellular reduction of a Pt(IV) prodrug leads to the cis-{Pt(NH3)2} 1,2-intrastrand d(GpG) crosslink in nuclear DNA.

REFERENCE COUNT: 59 THERE ARE 59 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 3 OF 12 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2008:293093 CAPLUS
DOCUMENT NUMBER: 148:449902
TITLE: Controlled patterning of peptide nanotubes and nanospheres using inkjet printing technology
AUTHOR(S): Adler-Abramovich, Lihi; Gazit, Ehud
CORPORATE SOURCE: Department of Molecular Microbiology and Biotechnology, George S. Wise Faculty of Life Sciences, Tel Aviv University, Tel Aviv-Jaffa, 69978, Israel
SOURCE: Journal of Peptide Science (2008), 14(2), 217-223
CODEN: JPSIEI; ISSN: 1075-2617
PUBLISHER: John Wiley & Sons Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Peptide nanostructures are expected to serve as a major tool in future nanotechnol. applications owing to their excellent self-assembly properties, biol. and chemical flexibility and structural simplicity. Yet one of the limiting factors for the integration of peptide assemblies into functional electro-organic hybrid devices is the controlled patterning of their assemblies. Here, the authors report the use of inkjet technol. for the application of peptide nanostructures on nonbiol. surfaces. The aromatic dipeptides nanotubes (ADNT) which readily self-assemble in solution were used as an 'ink' and patterned on transparency foil and ITO plastic surfaces using a com. inkjet printer. While inkjet technol. was used in the past for the patterning of carbon nanotubes, it was not used for the deposition of biomol. nanostructures. Furthermore, during the development of the application, the authors were able to produce two types of nanostructures, i.e., nanotubes and

nanospheres by the self-assembly of the same aromatic dipeptide, Boc -Phe-Phe-OH, under different conditions. Both spherical and tubular structures could be efficiently patterned on surfaces into predesigned patterns. The applications of such technol. are discussed.

REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 4 OF 12 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2007:1473645 CAPLUS
DOCUMENT NUMBER: 148:239468
TITLE: Amino acid functionalization of double-wall carbon nanotubes studied by Raman spectroscopy
AUTHOR(S): Marcolongo, Gabriele; Ruaro, Giorgio; Gobbo, Marina; Meneghetti, Moreno
CORPORATE SOURCE: Department of Chemical Sciences, University of Padova, Padua, 35131, Italy
SOURCE: Chemical Communications (Cambridge, United Kingdom) (2007), (46), 4925-4927
CODEN: CHCOFS; ISSN: 1359-7345
PUBLISHER: Royal Society of Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Double-walled carbon nanotubes (DWNT) are oxidized with potassium permanganate to yield DWNT selectively functionalized on their outer walls; coupling of the oxidized DWNT with ε-Boc-L-lysine Me ester hydrochloride yields lysine-substituted DWNT. The Raman spectra of pristine and oxidized DWNT and of oxidized DWNT coupled to lysine are obtained and compared with the Raman spectra of pristine and oxidized single-walled carbon nanotubes. The fraction of bound lysine per carbon atom in the oxidized DWNT coupled to lysine is determined both by acid hydrolysis of the nanotubes and by the use of the Kaiser test on the acid-deprotected lysine-functionalized DWNT..

REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 5 OF 12 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2006:1054087 CAPLUS
DOCUMENT NUMBER: 146:3709
TITLE: Small interfering RNA and single walled carbon nanotubes complexes for cancer therapy
INVENTOR(S): Yang, Rongcun; Chen, Yongsheng; Yang, Xiaoying; Zhang, Zhuohan; Zhang, Yuan; Wang, Shujing; Ma, Yanfeng
PATENT ASSIGNEE(S): Nankai University, Peop. Rep. China
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 27pp.
CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1840706	A	20061004	CN 2006-10013051	20060116

PRIORITY APPLN. INFO.: CN 2006-10013051 20060116

AB The invention provides novel small interfering RNA and single walled carbon nanotubes complexes for cancer therapy. The complexes are manufactured by: (1) connecting Boc-protected diamine to single walled carbon nanotubes (SWNTs) through chemical bonding so that the SWNTs contain pos. charges, and (2) connecting the SWNTs with small interfering RNA (siRNA) containing neg. charges through

electrostatic interaction to obtain the final product. The complex can carry siRNA into cells, and can improved the stability and function of siRNA in cells. In addition, the complex can also carry siRNA into tumor cells to inhibit the growth and proliferation of tumor cells, thus having potential antitumor applications.

L20 ANSWER 6 OF 12 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2006:256806 CAPLUS
DOCUMENT NUMBER: 145:505046
TITLE: Functionalization of carbon nanohorns with azomethine ylides: towards solubility enhancement and electron-transfer processes
AUTHOR(S): Tagmatarchis, Nikos; Maigne, Alan; Yudasaka, Masako; Iijima, Sumio
CORPORATE SOURCE: Theoretical and Physical Chemistry Institute, National Hellenic Research Foundation, Athens, 116 35, Greece
SOURCE: Small (2006), 2(4), 490-494
CODEN: SMALBC; ISSN: 1613-6810
PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The covalent functionalization of carbon nanohorns (CNH) via 1,3-dipolar cycloaddn. of azomethine ylides is described. The introduction of a repetitive centrifugation-filtration-solubilization cyclic treatment on the 1,3-dipolar cycloaddn. reaction of azomethine ylides with CNH is crucial for obtaining functionalized nanohorns of the highest purity, which are soluble in organic solvents and even in water. The nature of the α-amino acid used for the generation of azomethine ylides governs the solubility of modified nanohorns. The water solubility of cationic ammonium functionalized nanohorns in conjunction with the ability to drill holes on the external surface of nanohorns will open the door for the construction of novel nanohorn-based hybrid materials carrying diverse nanoparticles and/or metal clusters suitable for biotechnol. purposes.
REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 7 OF 12 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2006:123079 CAPLUS
DOCUMENT NUMBER: 144:198898
TITLE: Method for binding hydrohpihlic substances to fine carbon fibers
INVENTOR(S): Kurita, Tomotaka; Kohama, Hiromasa
PATENT ASSIGNEE(S): Terumo Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2006036638	A	20060209	JP 2004-213842	20040722
PRIORITY APPLN. INFO.:			JP 2004-213842	20040722

AB The invention relates to a process for binding a hydrophilic substance, e.g. a drug or a imaging agent, to fine carbon fiber, e.g. carbon nanofiber, carbon nanotube, and carbon nanohorn, etc.
as drug carrier, wherein the method includes protecting hydrophilic group of the substance, dissolving the hydrophobilized substance in subcrit. or supercrit. fluid and binding them to fine carbon fiber, and deprotecting the substance. For example, doxorubicin hydrochloride was reacted with

di-tert-Bu dicarbonate to form N-Boc doxorubicin. The N-Boc doxorubicin was dissolved in supercrit. carbon dioxide fluid with multilayered carbon fiber. Then, the carbon fiber was mixed with HCl/acetic acid solution, and dried to give doxorubicin hydrochloride-bound carbon fiber.

L20 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2005:371169 CAPLUS
DOCUMENT NUMBER: 142:430029
TITLE: Amphiphilic [5:1]- and [3:3]-hexakis-adducts of fullerenes based on malonate groups, and their preparation and use in the formation of micelles and the treatment of oxidative stress diseases
INVENTOR(S): Hirsch, Andreas
PATENT ASSIGNEE(S): C Sixty Inc., USA
SOURCE: PCT Int. Appl., 79 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
WO 2005037711	A1	20050428	WO 2004-US34003		20041014
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW					
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG					
US 20050143327	A1	20050630	US 2004-963990		20041013
CA 2540195	A1	20050428	CA 2004-2540195		20041014
PRIORITY APPLN. INFO.:			US 2003-511763P	P	20031015
			WO 2004-US34003	W	20041014

OTHER SOURCE(S): CASREACT 142:430029

AB Malonate-substituted fullerenes are disclosed, comprising a fullerene core (Cn, wherein n is an even integer greater than or equal to 60), plus 3 or 5 dihydrocarbylmalonate groups [i.e., C(COOR1)(COOR2) where R1 and R2 are hydrocarbyl] bonded to the fullerene core, and 1 or 3 polar extended malonate groups [i.e., C(COOR3)(COOR4), where R3 and R4 contain terminal polar moieties], also bonded to the fullerene core. Terminal polar moieties include biotin, NH2, CO2H, CONH2, and their protonated forms. The substituted fullerenes can form micelles, and (no data) can be used to ameliorate oxidative stress diseases. Approx. 10 invention compds. and approx. 20 fullerene intermediates were prepared in examples. For instance, DMA-templated tris-cyclopropanation of the e,e,e-tris-adduct of cyclo-[3]-octyl malonate with C60, using the malonate diester CH2[COO(CH2)14CONH(CH2)3(OCH2CH2)2O(CH2)3NH-Boc]2 (preparation given), CBr4, and DBU in PhMe, gave the expected hexakis-adduct in 55% yield. Deprotection of the latter with TFA in CH2Cl2 (almost quant.) gave a hexaamino amphiphile [a fullerene hexakis(malonate ester) with 3 malonate groups cyclized by 3 (CH2)8 linkages and the other 3 malonates esterified with 6 (CH2)14CONH(CH2)3O(CH2CH2O)2(CH2)3NH2 groups]. The pH-dependent water solubility of I was demonstrated by UV/Vis spectroscopy. I showed very low water solubility at neutral or weakly acidic pH, increased solubility at pH 5, and complete protonation and solubility at pH 3. I formed thin

aggregates in basic solution at pH 9-10, with the self-assemblies showing diams. of about 70 Å and great length, similar to carbon nanotubes. At neutral and acidic pH, no aggregates of I were observed Another prepared hexa-L-alanine amphifullerene was very soluble in THF, DMSO, and water at pH 7.2, and completely insol. in organic solvents such as CH2Cl2 and CHCl3.

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 9 OF 12 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2005:160876 CAPLUS
DOCUMENT NUMBER: 142:240885
TITLE: Noncovalent functionalization of carbon nanotubes with poly(arylenealkenylene) derivative compositions
INVENTOR(S): Stoddart, J. Fraser; Star, Alexander
PATENT ASSIGNEE(S): The Regents of the University of California, USA
SOURCE: U.S. Pat. Appl. Publ., 22 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20050043503	A1	20050224	US 2004-919659	20040816
US 7220818	B2	20070522		
US 20070117964	A1	20070524	US 2007-653364	20070116
PRIORITY APPLN. INFO.:			US 2003-496946P	P 20030820
			US 2004-919659	A3 20040816

AB Nanotubes are treated with poly{(5-alkoxy-m-phenylenevinylene)-co-[(2,5-dioctyloxy-p-phenylene)vinylene]} (PAmPV) polymers and derivs. to provide noncovalent functionalization of the nanotubes which increases solubility and enhances other properties.

REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 10 OF 12 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2004:856907 CAPLUS
DOCUMENT NUMBER: 141:356031
TITLE: Functionalized nanotubes
INVENTOR(S): Fischer, Alan; Hoch, Robert; Moy, David; Lu, Ming; Martin, Mark; Niu, Chun Ming; Ogata, Naoya; Tennent, Howard; Dong, Liwen; Sun, Ji; Helms, Larry; Jameison, Fabian; Liang, Pam; Simpson, David
PATENT ASSIGNEE(S): Hyperion Catalysis International, Inc., USA
SOURCE: U.S. Pat. Appl. Publ., 50 pp., Cont.-in-part of U.S. Ser. No. -594,673.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 5
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20040202603	A1	20041014	US 2004-837125	20040430
US 6203814	B1	20010320	US 1994-352400	19941208
US 20060193868	A1	20060831	US 2006-412350	20060426
PRIORITY APPLN. INFO.:			US 1994-352400	A3 19941208

	US 1996-611368	B1 19960306
	US 1996-37238P	P 19960925
	US 1997-812856	B1 19970306
	US 2000-594673	A2 20000616

AB The invention describes graphitic nanotubes, which includes tubular fullerenes (commonly called "buckytubes") and fibrils, which are functionalized by chemical substitution or by adsorption of functional moieties. More specifically the invention relates to graphitic nanotubes which are uniformly or non-uniformly substituted with chemical moieties or upon which certain cyclic compds. are adsorbed and to complex structures comprised of such functionalized nanotubes linked to one another. The invention also relates to methods for introducing functional groups onto the surface of such nanotubes. The invention further relates to uses for functionalized nanotubes.

L20 ANSWER 11 OF 12 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER:	2003:5613 CAPLUS
DOCUMENT NUMBER:	138:205424
TITLE:	Noncovalent Side-Wall Functionalization of Single-Walled Carbon Nanotubes
AUTHOR(S):	Star, Alexander; Liu, Yi; Grant, Kevin; Ridvan, Ludek; Stoddart, J. Fraser; Steuerman, David W.; Diehl, Michael R.; Boukai, Akram; Heath, James R.
CORPORATE SOURCE:	Department of Chemistry and Biochemistry, University of California, Los Angeles, CA, 90095-1569, USA
SOURCE:	Macromolecules (2003), 36(3), 553-560 CODEN: MAMOBX; ISSN: 0024-9297
PUBLISHER:	American Chemical Society
DOCUMENT TYPE:	Journal
LANGUAGE:	English

AB A family of poly[(m-phenylenevinylene)-co-(p-phenylenevinylene)]s, functionalized in the synthetically accessible C-5 position of the meta-disubstituted phenylene rings have been designed and synthesized: they are essentially poly{(5-alkoxy-m-phenylenevinylene)-co-[(2,5-dioctyloxy-p-phenylene)vinylene]} (PAmPV) derivs. A range of these PAmPV polymers have been prepared both (1) by the polymerization of O-substituted 5-hydroxyisophthaldehydes and (2) by chemical modifications carried out on polymers bearing reactive groups at the C-5 positions. PAmPV polymers solubilize SWNT bundles in organic solvents by wrapping themselves around the nanotube bundles. PAmPV derivs. which bear tethers or rings form pseudorotaxanes with rings and threads, resp. The formation of the polypseudorotaxanes has been investigated in solution by NMR and UV/vis spectroscopies, as well as on silicon oxide wafers in the presence of SWNTs by AFM and surface potential microscopy. Wrapping of these functionalized PAmPV polymers around SWNTs results in the grafting of pseudorotaxanes along the walls of the nanotubes in a periodic fashion. The results hold out the prospect of being able to construct arrays of mol. switches and actuators.

REFERENCE COUNT:	26	THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 12 OF 12 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER:	1997:617963 CAPLUS
DOCUMENT NUMBER:	127:283826
ORIGINAL REFERENCE NO.:	127:55330h,55331a
TITLE:	Functionalized nanotubes
INVENTOR(S):	Fischer, Alan; Hoch, Robert; Moy, David; Lu, Ming; Martin, Mark; Niu, Chun Ming; Ogata, Naoya; Tennent, Howard; Dong, Liwen; Sun, Ji; Helms, Larry; Jameison, Fabian; Liang, Pam; Simpson, David
PATENT ASSIGNEE(S):	Hyperion Catalysis International, Inc., USA
SOURCE:	PCT Int. Appl., 133 pp.

CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 5
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9732571	A1	19970912	WO 1997-US3553	19970305
W: AM, AT, AU, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TT, UA, US, UZ, VN, YU				
RW: GH, KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
CA 2247820	A1	19970912	CA 1997-2247820	19970305
AU 9721979	A	19970922	AU 1997-21979	19970305
AU 724277	B2	20000914		
EP 910340	A1	19990428	EP 1997-914892	19970305
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
CN 1217653	A	19990526	CN 1997-194402	19970305
BR 9707845	A	19990727	BR 1997-7845	19970305
JP 2002503204	T	20020129	JP 1997-531955	19970305
IL 125987	A	20030212	IL 1997-125987	19970305
RU 2200562	C2	20030320	RU 1998-116596	19970305

PRIORITY APPLN. INFO.:		
US 1996-37238	P	19960306
US 1996-37238P	P	19960306
WO 1997-US3553	W	19970305

AB Graphitic nanotubes, which include tubular fullerenes (commonly called buckytubes) and fibrils, which are functionalized by chemical substitution or by adsorption of functional moieties are claimed. More specifically the invention relates to graphitic nanotubes which are uniformly or nonuniformly substituted with chemical moieties or upon which certain cyclic compds. are adsorbed and to complex structures comprised of such functionalized nanotubes linked to one another. The invention also relates to methods for introducing functional groups onto the surface of such nanotubes. The invention further relates to uses for functionalized nanotubes, which include enzyme immobilization for sample separation and immobilizing a biocatalyst capable of catalyzing a reaction on the functionalized nanotubes.

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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FULL ESTIMATED COST	69.16	200.75
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-10.66	-10.66

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